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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,825	10/13/2003	Joseph Harry McCain	32848	5265

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EXAMINER	
MITCHELL, JAMES M	

ART UNIT	PAPER NUMBER
2813	

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	**Application No.** 10/685,825	**Applicant(s)** MCCAIN, JOSEPH HARRY	
	Examiner James M. Mitchell	**Art Unit** 2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 September 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *7-18 and 21-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *7-18 and 21-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to applicant's election filed September 12, 2005.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear ~~bo~~ how perpendicular further limits the word distance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 7, 8, 11 are rejected under 35 U.S.C. 102(b) as being anticipated by McCain (U.S. 5,153,710).

6. McCain (Fig. 1, 10) discloses:

(cl. 7, 27) an integrated circuit package, comprising: a lead frame assembly, including: a central support member, CSM (52) having opposing first and second major surfaces (e.g. top and bottom surfaces); and a plurality of conductive leads (48) radially disposed about the periphery of the central support member; an integrated circuit die, ICD (42) coupled to the first surface and having a plurality of bond pads (e.g. portion of chip connected to wire); a plurality of wire bonds (46) each coupling one of the plurality of bond pads and one of the plurality of conductive leads; and a power cell (12) coupled to the second surface;

(cl. 8) wherein the power cell includes an anode layer; a cathode layer (20, 22); and a separator layer (24) interposing the anode and cathode layers;

(cl. 11) an insulating layer (54) substantially covering surfaces of the body and the terminal that are opposite the power cell.

(cl. 14) the body and the terminal each comprise copper (Col. 7, Lines 25-26).

7. Claims 7, 8, 10, 11, 12, 21, 23, 27, 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Queyssac et al. (U.S. 5,089,877).

8. Queyssac (Fig. 7, 8) discloses:

(cl. 7, 27) an integrated circuit package, comprising: a lead frame assembly, including: a central support member (52) having opposing first and second major surfaces (e.g. top and bottom surfaces); and a plurality of conductive leads (28) radially disposed about the periphery of the central support member; an integrated circuit die (12) coupled to the first surface and having a plurality of bond pads (e.g. portion of chip connected to wire); a plurality of wire bonds (34) each coupling first end of wire to one of the plurality of bond pads and second end to one of the plurality of conductive leads/electrode terminal; and a laminated power cell (e.g. layers 32, 32N etc. stacked on teach other) coupled to the second surface;

(cl. 8) wherein the power cell includes an anode layer; a cathode layer (32N, 32); and a separator layer (material between 32,32N; not labeled) interposing the anode and cathode layers;

(cl. 10) and an electrode, including a planar body (28B) coupled to the power cell opposite the central support member; and a terminal (28) coupled to the body and configured to position a second terminus of the power cell wire bond in a reference plane that occupies the same space and therefore is substantially coincident with the first surface, wherein the terminal is integral to the body;

(cl. 11, 12) a paper material insulating layer (e.g. resin, 30; Col. 5, Lines 25-26) substantially covering surfaces of the body and the terminal that are opposite the power cell;

(cl. 14) the body and the terminal each comprise copper (Col. 6, Lines 60-63)

(cl. 21) an electrode having a substantially planar body and a terminal extending (28) from the body; an integrated circuit die (12); a wire bond (34) having a first end coupled to the integrated circuit die and a second end coupled to the electrode terminal; and a power cell interposing the electrode body and the integrated circuit die and coupled directly to at least one of the integrated circuit die and the electrode body; wherein the electrode terminal is configured to position the second wire bond end at a perpendicular distance from the body (understood to be e.g. a horizontal plane can by drawn that crosses a vertical plane at a perpendicular angel);

(cl. 23, 28) the body, power cell and integrated circuit die have substantially similar footprints (e.g. similar size);

9. Claims 7, 10, 11, 21, 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsushita (JP6-85162).

10. Matsushita (Fig. 1) discloses:

(cl. 7, 27) an integrated circuit package, comprising: a lead frame assembly, including: a central support member (8) having opposing first and second major surfaces (e.g. top and bottom surfaces); and a plurality of conductive leads (7) radially disposed about the periphery of the central support member; an integrated circuit die (6) coupled to the first surface and having a plurality of bond pads (e.g. portion of chip connected to wire); a plurality of wire bonds (9) each coupling first end of wire to one of the plurality of bond pads and second end to one of the plurality of conductive leads/electrode terminal; and a power cell (10) coupled to the second surface (e.g. mechanically coupled by adhesive/encapsulant,11);

(cl. 10) and an electrode, including a planar body (7a) coupled to the power cell opposite the central support member; and a terminal (e.g. vertical portion of 7a) coupled to the body and configured to position a second terminus of the power cell wire bond in a reference plane that occupies the same space and therefore is substantially coincident with the first surface, wherein the terminal is integral to the body;

(cl. 11) an insulating layer (11) substantially covering surfaces of the body and the terminal that are opposite the power cell;

(cl. 21) an electrode having a substantially planar body and a terminal extending (vertical of 7a) from the body; an integrated circuit die (6); a wire bond (9) having a first end coupled to the integrated circuit die and a second end coupled to the electrode terminal; and a power cell interposing the electrode body and the integrated circuit die and coupled directly to at least one of the integrated circuit die and the electrode body; wherein the electrode terminal is configured to position the second wire bond end at a perpendicular distance from the body (understood to be e.g. a horizontal plane can by drawn that crosses a vertical plane at a perpendicular angel)

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 8, 9 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsushita (JP6-85162) in combination with Tudolski et al. (U.S. 4,971,868).

13. Matsushita discloses the elements in paragraph 10 of this office action and further that it si either an n or p type (Egnl. Trans. Par. 0003), but does not appear to explicitly disclose that its power cell/ battery is lithium anode and magnese dioxide cathode with a separator of lithium perchlorate.

14. Tudolski utilizes a power cell with a lithium anode and magnese dioxide cathode with and a separator of lithium perchlorate.

15. It would have been obvious to one of ordinary skill in to form the battery of Matsushita utilizing the structure taught by Tudolski in order to provide a battery as required Matsushita (Eng. Abstract).

16. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsushita (JP6-85162) in combination with Tuttle (U.S RE 35,765).

17. Matsushita discloses the elements in paragraph 10 of this office action, but does not appear to explicitly disclose its encapsulant as polyester/paper material.

18. Tuttel utilizes a polyester encapsulant (Col. 4, Lines 23-25), which is a paper material.

19. It would have been obvious to one of ordinary skill in the art to form the encapsulant of Matsushita as a polyester in order to encapsulate the chip and IC as taught by Tuttle and (Col. 4, Lines 23-25).

20. Claims 14, 15 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsushita (JP6-85162) in combination with Knapp et al. (U.S. 6,346,343).

21. Matsushita discloses the elements in paragraph 10 of this office action, but does not appear to explicitly disclose that its lead or leadfame/ body comprises copper and nickel.

22. Knapp utilizes a body comprising copper and nickel (Par. 0022).

23. It would have been obvious to one of ordinary skill in the art to form the body and lead of Matsushita with copper and nickel in order to increase adhesion of wirebonding as taught by Knapp (Par. 0022).

24. Claims 16-18 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsushita (JP6-85162) in combination with Notten et al. (U.S. 6,346,343).

25. Matsushita discloses the elements stated in paragraph 10, but does not appear to show an electrode coupled to the power cell covered with a graphite, electrical conduction enhancements, but Notten utilizes graphite over an electrode.

26. It would have been obvious to one of ordinary skill in the art to one of ordinary skill in the art to incorporate forming graphite on the electrode of a power cell in order to slow decay in voltage as taught by Notten (Col.6, Lines 47-49) thereby enhancing electrical conduction.

27. Claims 22 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsushita (JP6-85162).

28. Matsushita discloses the elements stated in paragraph 10 of this office action, but do not appear to disclose the exact claimed thickness, or that the chip and battery having same size footprint.

29. With respect to claims 22 and 28, because applicant has not disclosed that the dimensions are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical, the dimensions would have been obvious since it has been held

that mere dimensional limitations are prima facie obvious absent a disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical. See, for example, In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984); In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

Conclusion

30. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M. Mitchell whose telephone number is (571) 272-1931. The examiner can normally be reached on M-F 8:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Carl Whitehead

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Jmm
December 21, 2005